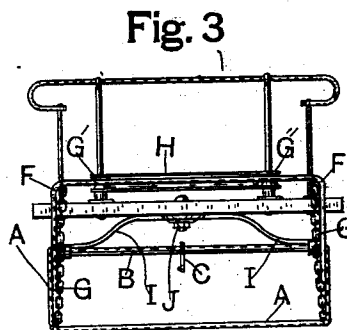


2 Sheets—Sheet 1.

No. 569,168.

Patented Oct. 13, 1896.



H. H. Hale.
Saml. Ford.

Andrew J. Brown
By his atty. Oscar Snell

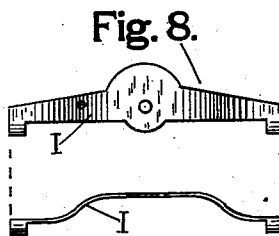
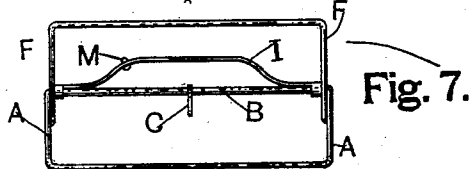
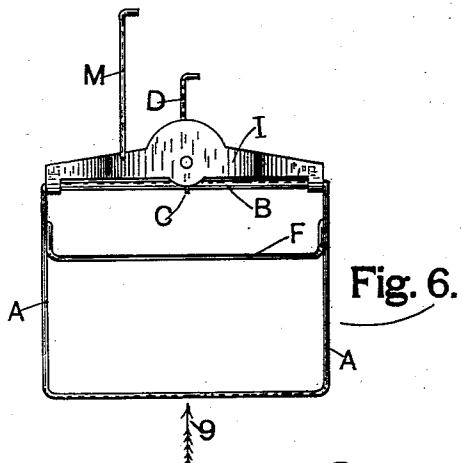
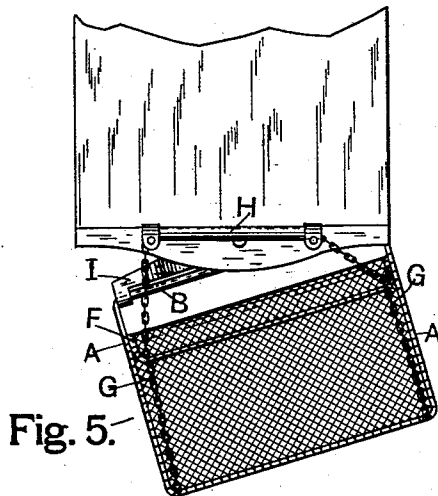
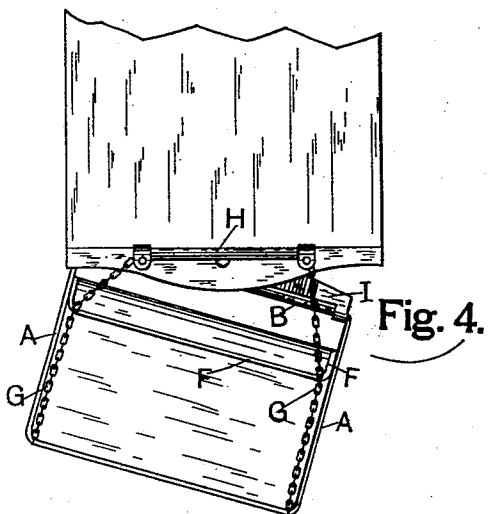
(No Model.)

2 Sheets—Sheet 2.

A. J. BROWN.
SAFETY GUARD FOR CARS.

No. 569,168.

Patented Oct. 13, 1896.



WITNESSES:

H. H. Hale.
Saml. Truitt.

INVENTOR

Andrew J. Brown
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UNITED STATES PATENT OFFICE.

ANDREW J. BROWN, OF CHICAGO, ILLINOIS.

SAFETY-GUARD FOR CARS.

SPECIFICATION forming part of Letters Patent No. 569,168, dated October 13, 1896.

Application filed February 25, 1895. Serial No. 539,526. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. BROWN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Safety-Guard for Cars, of which the following is a specification.

My invention relates to improvements in safety-guards for cars, and more especially to improvements in the construction therefor embodied in Letters Patent of the United States granted to me December 29, 1891, and numbered 466,115.

My object is not only to provide means on the car whereby the guard may be raised from or lowered to the track, but also means on the car for shifting the guard laterally, so that the front end thereof may be adjusted to cover the rails, whether the car is running on a straight or curved track, the construction of the several parts and manner of operating the same being described hereinafter and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a safety-guard and the means through which the same is operated, the several parts appearing as when attached to the front end of a car-platform which has one of the side sills removed, the safety-guard being in the down position, ready for duty. Fig. 2 is a side elevation similar to Fig. 1, with the exception that the guard is shown folded up against the front of the car and one of the operative levers in a changed position. Fig. 3 is a front elevation of the safety-guard and car-platform on a scale one-half that shown in Figs. 1 and 2, the wire-netting or other elastic filling for the frames of the guard not being shown. Fig. 4 is a plan of a portion of the front end of a car, showing safety-guard swung to a position to cover the rails when the car is running around a right-hand curve in the track, the filling for the guard-frames being shown as a non-perforated material. Fig. 5 is a similar plan to Fig. 4, except that the guard is shown in position to cover a left-hand curve in the track, the filling for the frames thereof being shown as wire-netting. Fig. 6 is a plan of the safety-guard frames in the down position, attached to the swivel-hanger for attaching same to the car. Fig. 7 is a front elevation of the parts

shown in Fig. 6, looking in the direction indicated by arrow 9. Fig. 8 shows, respectively, a plan and a front elevation of the swivel-hanger. Figs. 3 to 8, inclusive, are drawn to the same scale.

Similar letters indicate like parts throughout the several views.

The main guard-frame A is attached to a rock-shaft B, so as to be capable of vibration vertically from the position shown in Fig. 1 to that in Fig. 2, there being an arm C extending from the shaft, to which arm one end of a rod D is pivotally attached, the other end of this rod being pivotally attached to the lower end of an operating-lever E, which is pivoted to a bracket E', which is attached to the body of the car, the lever extending up through the floor thereof and being provided with a pawl, which engages in the teeth of a segment-rack, as shown.

At F is a vertically-disposed guard-frame, which is pivotally attached to the main guard-frame A, so that the two frames may fold together, as shown in Fig. 2. A chain G, or other similar flexible support, connects the front end of the main guard-frame on one side with the opposite front side, the chain passing over pulleys G' and G'' and through a tube H between the pulleys, and serves to hold the guard-frame at some desired distance above the rails of the track when the guard is at the down position.

The rock-shaft B is mounted in pivotal bearings at each end of a swivel-hanger I, the ends of this hanger curving downwardly and extending laterally of the car-body, so that when the central portion thereof is pivotally attached to the under side of the car by means of a pintle-bolt J, Fig. 3, there is space between the rock-shaft and the central portion of the hanger to permit the projection of the usual coupling device for the car, and the shape of the hanger also permits a vibratory motion in a horizontal plane, to a limited extent, without the hanger contacting with the car-coupling device or any support therefor.

At K is a foot-lever, which is pivoted at the under side, near the center of its length, to a low standard, which is secured to the top surface of the bottom of the car, and there is an arm L from this lever which projects downwardly through the floor, and to the lower end

of this arm is pivotally attached one end of a rod M, whose opposite end is pivotally attached to the swivel-hanger I. The lower end of arm C on rock-shaft B occupies such a relative position when the guard-frame is at the down position that the pivotal hole to receive the end of rod D is substantially directly under the pivotal center or pintle-bolt J of swivel-hanger I, so that any horizontal vibration of the swivel-hanger, causing a like motion to be imparted to the attached rock-shaft, will not cause any appreciable pull or thrust upon rod D.

It is obvious that should one place a foot upon the end P of lever K and press downwardly to the position indicated by the broken lines the rod M would be drawn backwardly; and with it one end of the swivel-hanger, the opposite end thereof moving forwardly, causing the front end of the safety-guard to move laterally and assume the position shown in Fig. 4, but by pressing upon the opposite end of lever K from that just described the safety-guard will be instantly moved over to the position shown in Fig. 5, the suspension-chain G easily sliding through pipe H in either direction, by passing over pulleys G' G'', and holding the front end of the safety-guard to any desired height above the railway-track.

When the guard is lifted, it is first moved to the position adapted to a straight track, as shown in Fig. 3, when a movement of lever E backwardly from the position shown in Fig. 1 to that shown in Fig. 2 causes rock-shaft B to be turned a partial revolution and the attached frames A and F lifted to the folded position shown in Fig. 2, all of which has been fully described in the Letters Patent granted to me and hereinbefore referred to.

I claim as my invention—

1. The combination in a safety-guard for cars having a cushioned frame A forming a

platform which is pivotally connected to a horizontally-swinging hanger which is pivotally attached to the car, of pulleys on the car and a chain or like flexible support having the central portion around the pulleys and the ends thereof attached to the frame A, whereby the chain serves to hold the frame at the desired distance above the track and is adapted to have a longitudinal movement over the pulleys to permit lateral vibrations of the frame, substantially as described.

2. The combination with a car, of a horizontal rock-shaft B and operating-lever E therefor upon the car, and a safety-guard at the front end of the car comprising a main frame A filled with cushioning material, and a cushioned back frame F connected pivotally with frame A, to fold against the same, and a chain connected with the car and with the two frames which is adapted to hold them in position for duty, the main frame A rigidly connected with a rock-shaft to be swung in the vertical plane as the shaft is rocked, the shaft mounted in bearings in a hanger which is pivotally mounted on the car, to vibrate with the shaft and the safety-guard frames in a horizontal plane, and means on the car through which the hanger is vibrated, substantially as described.

3. The combination in a safety-guard for cars of the chain or other flexible support G, the pulleys G' and G'', and tube H between the pulleys, the chain attached to the safety-guard frames and operating over the pulleys and through the tube, in the manner and for the purpose as described.

In testimony that I claim the foregoing I have hereunto set my hand, this 19th day of February, 1895, in the presence of witnesses.

ANDREW J. BROWN.

Witnesses:

H. L. BROWN,
OSCAR SNELL.